

Why GridFTP

1. Secure and robust data transfer with FTP protocol.
2. Dedicated SER-CAT GridFTP onsite server, remote user data transfer will not drag down the local network and file access performance
3. User can start data transfer from SER-CAT archive system to their home institutions archive by using Globus Connect Personal protocol from Anywhere, Anytime. Users only need to log into globus website with Globus personal credential, and they do NOT need to log into their home archive system.
4. Interrupted data transfer can be resumed anytime.

GridFTP Setup Protocol

1. Go to <https://www.globus.org/> and create your own Globus personal credential.
2. Go to <https://www.globus.org/> and log in with your Globus credential you created before.
3. Set up your destination endpoint as following:

The destination Endpoint

The user is recommended to setup "Globus Connect Personal".

- 1). Login to destination system
 - 2). Login to Globus,
 - 3). Navigate to "Manage Endpoints"
 - 4). click "add Globus Connect Personal"
 - 5). Follow the instructions
4. Then go to "File Transfer"
 5. You need choose two endpoints: one for our server, one for your destination endpoint
 6. In one endpoint, search for endpoint "aps#ser-cat", which is the directory for our archive system
 7. In the other endpoint, you pick the one you just set up from step 2 above.
 8. In server endpoint, pick your data directory, for example: " BM_15_10_24_UGA_uga" (25 GB total).
 9. Start data transfer by clicking the arrow button.

Example of Globus Connect Personal File Transfer Setup

At SER-CAT, I logged into Linux computer idc37.ser.aps.anl.gov as "staff". Following setup protocol was used in this account/computer.

1. From staff account in Linux computer idc37 internet browser, go to globus website: www.globus.org, and log into my GlobusID. If you do not have Globus personal credential, create one.

2. Click >Endpoints<

3. Click >add Globus Connect Personal endpoint<

4. Step 1: Get your Globus Connect Personal Setup Key

Display name: SER-CAT IDC37

(recommended name: aps#ser-cat#idc37 in the future, such as uga#wanglab#computer1 etc.)

5. SER-CAT IDC37 created (with following setup key)

11981e8a-fbca-4072-####-#####

6. Step 2: Download & Install Globus Connect Personal

For Windows:

1). Download the installer and follow instruction to install it.

For Linux:

1). save globusconnectpersonal-latest.tgz into /home/staff/Downloads/

2). gunzip globusconnectpersonal-latest.tgz

3). tar -xf globusconnectpersonal-latest.tar

4). cd globusconnectpersonal-2.2.1

5). Run ./globusconnectpersonal, if the program complains about tcllib, do following step 6)-8)

6). su root

7). yum install tcllib

8). log out from root, stay as staff

9). if the step 6)~8) does not work well, run command line from your installation directory:

./globusconnectpersonal -setup 11981e8a-fbca-4072-####-#####

Following output will show up:

Configuration directory: /home/staff/.globusonline/lta
Contacting relay.globusonline.org:2223
Installing certificate and key
Creating /home/staff/.globusonline/lta/gridmap
Done!

9). Run command:

```
./globusconnectpersonal -start
```

Note: this will start the globus connect personal on idc37 before you start any data transfer; after data transfer, you may Ctrl^C to exit this command or you may keep it running in the background for future data transfer.

7. Go back to Globus personal account->Transfer file

Select Endpoint: aps#ser-cat
Select Endpoint: SER-CAT IDC37
Select Path: /home/staff/globustest/BM_15_10_17_staff_jin_220A
(This is test directory with size of 32 GB)
Click transfer arrow =>
Start in the mode:
verify file integrity after transfer
transfer is not encrypted
overwriting all files on destination
Speed about: 38 MB/s -> 52 MB/s -> 43 MB/s -> 53 MB/s (speed changes during transfer)
Started at: 2016-06-16 11:36 am
Finished at: 2016-06-16 11:50 am, effective speed 46 MB/s

8. Second test

Select Endpoint: aps#ser-cat
Select Endpoint: SER-CAT IDC37
Select Path: /home/staff/globustest/ID_16_06_01_staff_test
(This is test directory with size of 33 GB)
Start in the mode:
transfer is not encrypted
preserve source file modification times
transfer new or changed files where the checksum is different (sync level 3)
Speed about: 32 MB/s -> 37 MB/s -> 30 MB/s -> 18 MB/s
Started at: 2016-06-16 11:59 AM
Finished at: 2016-06-16 12:28 PM

For Linux system GridFTP set up:

<https://docs.globus.org/how-to/globus-connect-personal-linux/>